

Funding Opportunity Announcement

Overview Information

NAICS Code: The NAICS Code for this acquisition is **325110** and the small business standard is 500.

Federal Agency Name: Air Force Research Laboratory, Materials and Manufacturing Directorate, AFRL/RX

Funding Opportunity Announcement Title: Defense Production Act (DPA) Title III Advanced Drop-In Biofuels Production Project (ADBPP) Biofuels 2

Additional information on the Defense Production Act Title III:

This announcement is to solicit production technology project proposals for the Defense Production Act (DPA) Title III Program managed by the Office of the Secretary of Defense (OSD) and executed by the DoD Executive Agent Program Office, a component of the Manufacturing Technology Division (AFRL/RXM) of the Materials and Manufacturing Directorate, Air Force Research Laboratory, www.dpatitle3.com. As the Executive Agent for DoD's DPA Title III Program, the Air Force is responsible for executing programs that ensure domestic production capability for technology items that are essential to national defense.

Title III of the Defense Production Act provides unique authorities, under which the Government may provide appropriate incentives to create, maintain, protect, expand, or restore the productive capacities of domestic production sources (see below for definition) for critical components, critical technology items, and industrial resources essential for the execution of the national security strategy of the United States. The principal objective of all DPA Title III investments is to strengthen and expand these domestic productive capacities and to ensure Government access to critical technology items well into the future. Any agreements awarded under this FOA will be awarded under the authority of Title III of the Defense Production Act of 1950 as amended (50 U.S.C. App. § 2061 et seq.).

Each DPA Title III Program effort will provide incentives to domestic manufacturers to create, maintain, protect, expand, or restore their critical production technologies and to develop and/or adopt best business and marketing practices to achieve joint manufacturing capacity, quality, affordability, and economic viability requirements.

As defined in the Defense Production Act of 1950 a domestic production source is: "A business concern that performs in the United States or Canada substantially all of the research and development, engineering, manufacturing, and production activities required of such business concern under a contract with the United States relating to a critical component or a critical technology item; and that procures

from business concerns (described as above) substantially all of any components and assemblies required under a contract with the United States relating to a critical component or critical technology item.” For this solicitation, projects shall be restricted to the United States and Canada. Territories and Protectorates of the United States are not included in this definition. See “Estimated Program Cost” below for more information.

Proposals should be addressed to the Contracting Point of Contact (POC) stated in Section VII of the Full Text Announcement.

Funding Opportunity Announcement (FOA) Type: This is the Initial Announcement.

Funding Opportunity Announcement Number: *FOA-AFRL-RQKM-2017-0006*

Catalog of Federal Domestic Assistance (CFDA) Number(s): 12.800_AF

Intent to Propose: Offerors that anticipate submitting a proposal are requested to submit an e-mail to David Hall at David.Hall.63@us.af.mil containing the name of the recipient, the POC, and the recipient’s intent to submit a proposal. This “Intent to Propose” is requested by **27 April 2017, 2:00 p.m. Local Time.**

Proposal Due Date and Time: 25 May 2017, 2:00 p.m. Local Time. NOTE: Any proposal, modification or revision received at the Government Office designated in this FOA after the exact time specified for receipt of offers is “late” and will not be considered except at the Contracting Point of Contract’s discretion. It should be noted that this installation observes strict security procedures to enter the facility. These security procedures are NOT considered an interruption of normal Government processes, and proposals received after the above stated date and time as a result of security delays will be considered “late.” Furthermore, note that if offerors utilize commercial carriers in the delivery of proposals, they may not honor time-of-day delivery guarantees on military installations. *Be advised, if the U.S. Postal Service is used, this building only receives U.S. Postal Mail twice a week and delivery by that means may not meet the proposal due date and time established herein.* Early proposal submission is encouraged.

Submission: Proposals must be submitted to the Contracting Point of Contact (POC): David Hall, AFRL/RQKMT, 2130 8th Street (Building 45), Wright-Patterson AFB, OH 45433-7541, David.Hall.63@us.af.mil, (937) 713-9903.

Solicitation Request: Air Force Research Laboratory, AFRL/RXM, Manufacturing Technology Division, Wright Research Site is soliciting proposals on the production technology project effort described below.

System for Award Management (SAM) Registration: SAM is the primary Government repository for prospective federal awardee information and the centralized Government system for certain contracting, grants, and other assistance related processes. It replaces CCR/FedReg, On-line Representations and

Certifications (ORCA) and the Excluded Parties Lists System (EPLS). Offerors shall be registered in the SAM database prior to submitting an invoice and through final payment of any agreement resulting from this FOA. Offerors may obtain information on registration and annual confirmation requirements via the SAM accessed through <https://www.acquisition.gov> or by calling 866-606-8220.

Type of Instrument: The Government intends to award a Department of Defense Grant and Agreement Regulations (DoDGARS)-based Technology Investment Agreement.

Estimated Program Cost: Total \$110M; \$55M Government share plus \$55M Recipient share. It is expected that approximately 1 (one) award will be made at up to \$55M, plus Recipient cost share. Projects will be executed in 2 (two) Phases. The Government will provide up to \$8M Government share (plus Recipient share) for Phase 1. The Government will provide up to \$47M Government share (plus Recipient share) for Phase 2. **Selected awardees will be required to share at least 50% of the total project cost.**

By the end of Phase 1, offerors will be required to achieve 'financial close' prior to beginning the execution of Phase 2 and having access to the Government's Phase 2 funds.

All funds addressed herein have been or may be appropriated solely under the authority of Title III of the Defense Production Act of 1950. Neither US Department of Agriculture Commodity Credit Corporation (CCC) funds nor Defense Logistics Agency Offtake Agreements are under the control of the DPA Title III Program Office. Neither CCC funds nor Defense Logistics Agency Offtake Agreements will be awarded as part of the DPA Title III Advanced Drop-In Biofuels Production Project. Note that projects based in Canada will not be eligible for funds under the Commodity Credit Corporation.

Anticipated Number of Awards: The Air Force anticipates awarding 1 (one) award from this announcement. Additional awards could be made subject to availability of additional funding. The Air Force reserves the right to make none, one or more awards as a result of this FOA.

Brief Program Summary: The goal of this project is to further increase domestic advanced biofuels production capacity by establishing complete domestic value chains capable of producing drop-in replacement biofuels. This includes feedstock production and logistics, conversion facilities (Integrated Biorefineries), and fuel blending (if required), transportation, and logistics. The Government is providing assistance to create or expand an Integrated Biofuels Production Enterprise (IBPE) comprised of partnerships that establish the complete value chain. The proposed IBPE must be able to establish a capability to produce at least 10 million gallons or expand an existing capability to produce at least an additional 10 million gallons of neat biofuel per year.

The contemplated effort will include the design, construction and/or retrofit, operation, validation and qualification of a domestic commercial-scale Integrated Biofuel Production Enterprise (IBPE) that meets a requirement of at least 10 million gallons per year neat biofuel production capacity as measured by the volume of production that conforms to synthetic hydrocarbons annexes in the fuel specification targeted for production. The IBPE will be capable of producing drop-in liquid transportation fuels targeted for military operational use, and as such, must be approved and certified MILSPEC JP-5, MILSPEC JP-8, approved for US military use ASTM D1655 / D7566 Jet A/A1 and/or MILSPEC F-76 equivalents by the time the IBPE becomes operational.

Additionally, the total enterprise envisioned in this effort must include a capability to blend the neat biofuel product with petroleum-based equivalent fuels, if required in order to meet approved certifications and specifications, and thus furnish a ready for use, drop-in biofuel blend. Capabilities and/or facilities to store and transport the resulting product must also be an element of the project.

Communication Between Prospective Offerors and Government Representatives:

All questions after the FOA release shall be addressed in writing to David Hall, AFRL/RQKMT, David.Hall.63@us.af.mil. After FOA release, questions and answers may be posted if warranted.

Discussions with any of the points of contact shall not constitute a commitment by the Government to subsequently fund or award any proposed effort. Only Contracting/Agreements Officers are legally authorized to commit the Government.

Address any questions to:

David Hall
AFRL/RQKMT
2130 8th Street, Bldg. 45
Wright-Patterson AFB, OH 45433-7541
David.Hall.63@us.af.mil
(937) 713-9903

Full Text Announcement

I. Program Description: Air Force Research Laboratory, Materials and Manufacturing Directorate, AFRL/RX, is soliciting proposals on the following Title III Production Technology Project effort: Advanced Drop-In Biofuels Production Project Biofuels 2.

1. Statement of Objectives: The Government is interested in establishing or expanding the commercial-scale manufacture and supply of drop-in

replacement transportation biofuels for aviation and marine diesel applications. The targeted fuels will be for military operational use, and as such, must be either currently approved/certified or are likely to be approved and certified MILSPEC JP-5, MILSPEC JP-8, approved for US military use ASTM D1655 / D7566 Jet A/A1 and/or MILSPEC F-76 equivalents by the time a commercial-scale IBPE would become operational. The Department of Defense (DoD) has indicated that it intends to purchase biofuel blends that meet approved specifications, meet the provisions of the Energy Independence and Security Act (EISA) Section 526, are a "drop in fuel" that can utilize existing infrastructure, are delivered to DoD fully blended with conventional petroleum product counterparts if required, and are ready for use. Cost competitiveness of the biofuel with conventional petroleum derived fuels is a primary DoD objective. A more detailed description of the program objectives and requirements is provided in Appendix A: Project Goals, Requirements, Objectives, and Phases.

- 2. Schedule:** The anticipated period of performance for this award is five and a half years (66 months) total, including two and a half years (30 months) for Phase 1 (Planning, Preliminary Design and Financial Close), followed by up to three years (36 months) for Phase 2 (Construction, Commissioning and Performance Testing). A more detailed description of the program phases is provided in Appendix A: Project Goals, Requirements, Objectives, and Phases. A 60 month No-Cost Monitoring Phase, described in Appendix A, is anticipated.
- 3. Deliverable Items:** See Appendix A: Project Goals, Requirements, Objectives, and Phases for a description of recommended and required deliverables. The negotiated agreement will define specific requirements for the deliverables.
- 4. Future Phases:** It is anticipated that a No-Cost Monitoring Phase may follow Phase 2, during which the Government will monitor the operation of the IBPE. A more detailed description of the program phases is provided in Appendix A: Project Goals, Requirements, Objectives, and Phases.
- 5. Other Requirements:**
 - A.** Program security classification: none.
 - B.** Export Control: Information involved in this effort **will not** be subject to Export Control (International Traffic in Arms Regulation (ITAR) 22 CFR 120-131, or Export Administration Regulations (EAR) 15 CFR 710-774)
 - C.** Awards shall be restricted to domestic production sources as defined in the Defense Production Act of 1950: "A business concern that performs in the United States or Canada substantially all of the research and development, engineering, manufacturing, and production activities required of such business concern under a contract with the United States relating to a critical component or a critical technology item; and that

procures from business concerns (described as above) substantially all of any components and assemblies required under a contract with the United States relating to a critical component or critical technology item.”

6. Other Information:

- A.** Government Furnished Property (GFP) is not anticipated to be available.
- B.** Base Support/ Network Access: Not Applicable
- C.** Multiple awards subject to Fair Opportunity: Not Applicable
- D.** Data Rights Desired:
 - (1) Technical Data: Government Purpose Rights
 - (2) Non-Commercial Software (NCS): N/A
 - (3) NCS Documentation: N/A
 - (4) Commercial Computer Software Rights: N/A

II. Award Information

The Government intends to award a DoDGARS Agreement known as a Technology Investment Agreement (TIA). Agreements are governed by the Department of Defense Grant and Agreement Regulations (DODGARs), which is available for review at: <http://www.dtic.mil/whs/directives/corres/pdf/321006p.pdf>

A Model TIA is available in Appendix J to this FOA. **Any need for clarifications or any exceptions the offeror has to the TIA articles, as presented in the Model TIA, must be stated at the time of the proposal submission.**

- 1. Anticipated Award Date:** 4 December 2017.
- 2. Anticipated Government funding for the program** (not per agreement):

	Fiscal Year (FY)13	FY16	Total
Phase 1	Up to \$8M	\$0	Up to \$8M
Phase 2	Up to \$2M	Up to \$45M	Up to \$47M
Total	Up to \$10M	Up to \$45M	Up to \$55M

Offerors should recognize that no more than \$55M funding may be available. This funding profile is an estimate only and will not be a contractual obligation for funding as all funding is subject to change due to Government

discretion and availability.

Anticipated Number of Awards: The Air Force anticipates awarding 1 (one) award for this announcement. Additional awards could be made subject to availability of additional funding. The Air Force reserves the right to make none, one or more awards as a result of this FOA.

III. Eligibility Information

- 1. Eligible Offeror:** Solicitations shall be restricted to domestic production sources in the United States and Canada (this excludes US Territories and Protectorates) that must be structured as For-Profit organizations. Canadian offerors will not be eligible to leverage USDA CCC funds.
- 2. Proposed Cost Sharing or Matching:** Cost Sharing is required. Cost sharing is a requirement of Technology Investment Agreements in the amount of 50% Recipient (minimum) and 50% Government (maximum of \$55M) (DoDGARS Part 37.215). Cost sharing greater than 50/50 will be viewed favorably by the Government in the proposal evaluation process. Cost share waivers will not be considered; proposals that do not propose cost share of at least 50% will not be evaluated. The Cost Volume should clearly indicate what percentage of the total cost will be paid by Government funds, and what percentage will be paid by awardee cost share.
- 3. Other:**
 - A. Foreign participation:** No
 - B. Offerors may be ineligible for award if all requirements of this FOA are not met as of the specified proposal due date(s) set forth in above.**

IV. Proposal and Submission Information

- 1. Overview:** Proposals submitted shall be in accordance with this announcement. There will be no other solicitation issued in regard to this requirement. The Government intends to evaluate proposals and award multiple, one, or none of the proposals received without negotiation/discussion; however, the Government reserves to right to negotiate with those offeror(s) whose proposal is selected for funding.

Offerors should be alert for any FOA amendments that may permit extensions to the proposal submission date.

For additional information, a copy of the Broad Agency Announcement (BAA) Guide for Industry and be found at:

<http://www.wpafb.af.mil/Portals/60/documents/afri/AFRL-broad-agency-announcement-guide.pdf?>

This guide is specifically designed to assist the offeror in understanding the BAA proposal process which is similar to the FOA proposal process which does not have its own guide.

2. Proposals for Technology Investment Agreements

A. Grant Opportunity: Go to <http://grants.gov> to find the grant opportunity. The initial screen will provide the synopsis for that specific grant opportunity. To view the entire opportunity open the "Full Announcement" box in the upper center of the synopsis page and select from the documents available under "Announcement Group." NOTE: <http://grants.gov> has tools and guiding documents in the left margin under "Applicant Resources" to help you find and apply for grant opportunities. Grants.gov requires Adobe Reader version 8.13 to open, download, save, and submit an application electronically. Adobe Reader version 8.13 is available for free from Grants.gov under "Applicant Resources," "Download Software."

B. Proposal Cover Page – SF 424 (R&R) Form: All proposals for grants or assistance must include an SF 424 (R&R) as the cover page. The SF 424 (R&R) should be downloaded from the "Application" box in the upper right hand corner of the synopsis page. Click on "download" under the column "Instructions and Application." Select "Download Application Package" and complete the SF 424 (R & R). The SF 424 (R&R) can also be found at:

<http://www.grants.gov/web/grants/forms/r-r-family.html#sortBy=1>

C. Certifications: See the Representations and Certifications in Appendix I. To complete the Certifications you must check Block 18 of the SF 424 (R&R), and by signing it, you are certifying that you have read and agree to abide by the terms in the Certifications. Also, you must complete and submit with your proposal Appendix I, Title III Representations and Certifications.

D. For Required Hard Copy Submission: The original proposal and the number of copies specified in this announcement must be delivered directly to the Contracting POC at the time and date specified in this announcement.

3. Content and Form of Proposal Submission: The paragraphs below identify proposal format and content. Proposals should be delivered to the Contracting Point of Contact (POC) identified in Section VII.

A. General Instructions: Offerors should apply the restrictive notice prescribed in the provision of DoDGARS 37.420. Also, Disclosure of Information will be in accordance with DoDGARS 37.420.

- a) The proposal submittal shall include three separate volumes: a Technical Volume, a Summary Business Plan Volume, and a Cost Volume, and must be valid for 210 days. **Note: All three proposal volumes are a proposal submission requirement.**
- b) Proposals must reference the announcement number FOA-AFRL-RQKM-2017-0006.
- c) Offerors must submit one original, five paper copies and two electronic copies of their proposals to the Contracting POC identified above. **No proposals sent by fax, Grants.gov online submission, or e-mail will be accepted.**
 - (i) Each electronic copy must be submitted on one Compact Disk (CD), and the file format must be readable by Microsoft Word or Microsoft Excel; or by Adobe PDF Reader. All electronic versions must match the paper copies. It is the responsibility of the offeror to ensure that both the paper copy and electronic copy are identical. If not, the paper copy will take precedence and be deemed the "official" version of the proposal for evaluation purposes.
 - (ii) The cost file(s) spreadsheets must include the formulas for calculating cost element bases (i.e., G&A, O/H, etc.).
 - (iii) The CDs should be labeled with the company name and proposal title.
 - (iv) Offerors are advised that only Agreement Officers are legally authorized to contractually bind or otherwise commit the Government.
 - (v) The cost of preparing proposals in response to this FOA is not considered an allowable direct charge to any resulting or any other agreement; however, they may be allowable expenses to the normal bid and proposal indirect cost IAW DoDGARS 34.17.
 - (vi) No classified proposals or cost volumes are expected. Offerors are encouraged to keep all elements of the proposal package unclassified. In the rare case where an offeror has a need to submit a classified appendix, please contact the Contracting POC for delivery instructions.

B. Title Page: The title page should include the FOA number, FOA title as well as the name and telephone number for the principal points of contact (both technical and contractual), and any other information that identifies the proposal. The title page should also contain the proprietary data

disclosure statement, if applicable. However, it is noted that the Statement of Work portion of the Technical Volume shall be formatted so that it is absent of any proprietary data and therefore fully incorporable into a resulting agreement and releasable pursuant to Freedom of Information Act requirements.

C. Table of Contents: Include a Table of Contents immediately following the title page.

D. Requirements Compliance Summary: Include a Requirements Compliance Summary table (as described in Appendix M) immediately following the Table of Contents.

E. Page Limitations and Formatting: The following describes the page limitations and formatting requirements on the proposal submittal:

- i. The Technical Volume of the proposal shall be limited to 100 pages. This limitation includes all information, e.g., indices, photographs, foldouts, etc. The limitation includes the offeror's proposed Statement of Work (SOW). The Government will not consider pages in excess of these page limitations. Technical Volume page limitations are summarized as follows:

Technical Discussion:	approximately 96 pages
Statement of Work:	approximately 4 pages
Technical Volume Total:	not to exceed 100 pages

Required Attachments, as described in the appendices, are not counted towards the page limit:

- Appendix C: Environmental Questionnaire
- Appendix D: Commercial Process Flow Diagram
- Appendix E: Demonstration Process Flow Diagram and Supporting Data

Summary Business Plan and Cost Volume page limitations are summarized as follows:

Summary Business Plan Total: not to exceed 100 pages

Required Attachments, as described in the appendices, are not counted towards the page limit:

- Appendix F: Cash Flow pro forma Excel File

Cost Volume Total: No page limit

Note 1: The Cost Volume requirements are provided later in this announcement.

Note 2: The title page, table of contents, and Requirements Compliance Summary table will not be included in the page count referenced above.

- ii. Font shall be standard 11-point business font Arial.
- iii. Character spacing must be "normal," not condensed in any manner.
- iv. Pages shall be double-spaced, double-sided (each side counts as one page), 8.5 by 11 inches, with at least one-inch margins on both sides, top and bottom. Lines between text lines must also be 11-point.
- v. All text, including text in tables and charts, must adhere to all font size and line spacing requirements listed herein. Font and line spacing requirements do not have to be followed for illustrations, flowcharts, drawings, and diagrams. These exceptions shall not be used to circumvent formatting requirements and page count limitations by including lengthy narratives in such items.
- vi. Pages shall be numbered starting with the title page being Page 1. The page limitation covers all information including indices, photographs, foldouts (counted as 1 page for each 8.5 by 11 portion) tables, charts, appendices, resumes, etc. Required attachments are not included in the page count.
- vii. The proposal page limit includes the offeror's proposed Statement of Work (SOW); the same formatting rules apply to the SOW.
- viii. **Please note: The Government will check the proposal and SOW for conformance to the stated requirements. Any pages in excess of the stated page limitation after the format check will not be considered.** In addition if the proposal does not conform to the above requirements, a notification will be sent to the offeror's POC on the title page to advise of the nonconformance.

F. Technical Volume: See Appendices A, B, C, D, E and G for instructions regarding the content of the Technical Volume. The Technical Volume will be evaluated at the same time as the Cost Volume and the Summary Business Plan Volume.

The completed attachments in the following Appendices are required to be submitted as part of the proposal. **Proposals that do not include all of the required attachments will be determined to be non-responsive and will not be further evaluated.**

- Appendix C: Environmental Questionnaire
- Appendix D: Commercial Process Flow Diagram

- Appendix E: Demonstration Process Flow Diagram and Supporting Data
- i. **Offeror's Statement of Work should include work for both Phase 1 and Phase 2.** The SOW developed by the offeror and included in the proposal may be incorporated into a binding instrument. The SOW should respond to the requirements of the Government's objectives. A more detailed description of the program phases is provided in Appendix A: Project Goals, Requirements, Objectives, and Phases. The proposed SOW must contain a summary description of the technical methodology as well as the task description, but not in so much detail as to make the agreement inflexible. **Do not include any proprietary information in the SOW.** Competing firms may request copies of our contracts under the Freedom of Information Act; consequently, it is imperative that no company-sensitive information be included in the SOW of the technical proposal. Length is not to exceed 4 pages.
 - ii. The following is offered as a recommended format for the SOW. Begin this section on a new page. Start your SOW at Paragraph 1.0.
 - 1.0 Scope: This section includes a statement of what the program covers. This should include the overall effort to be advanced, objectives/goals, and major milestones for the effort.
 - 2.0 Requirements:
 - 2.1 The work effort should be segregated into major tasks and identified in separately numbered paragraphs (similar to the numbered breakdown of these paragraphs). Each numbered major task should delineate by subtask the work to be performed, including any cost-sharing work, and should be sequentially numbered.
 - 2.2 The offeror must identify all reviews (by milestone or task) and when/where the reviews will be conducted.
 - 2.3 The offeror must identify any and all hardware/software/data to be delivered to the Government as a result of the program.
 - iii. Any questions concerning the proposal, whether technical or contractual in nature, shall be referred to the Contractual POC.

G. Summary Business Plan Volume. See Appendices A, B and F for instructions regarding the content of the Summary Business Plan. The

Summary Business Plan Volume will be evaluated at the same time as the Technical and Cost Volumes. The Summary Business Plan Volume shall follow the same formatting requirements as the Technical Volume unless otherwise noted.

The completed attachment in the following appendix is required to be submitted as part of the proposal. Proposals that do not include all of the required attachments will be determined to be non-responsive and will not be further evaluated.

- Appendix F: Cash Flow pro forma Excel File

H. Cost Proposal Spreadsheet: The cost proposal spreadsheet (Appendix N) should provide complete details of the costs (including cost share portion) associated with the entire proposed effort. The budget should be in the offeror's fiscal year.

The electronic submission of the Excel spreadsheet associated with the Cost Proposal should be in a "useable condition" to aid the Government with its evaluation. The term "useable condition" indicates that the spreadsheet should visibly include and separately identify within each appropriate cell any and all inputs, formulas, calculations, etc. The term "useable condition" also indicates using meaningful labor descriptors such as Senior Material Scientist. Do not use internal cost codes which are meaningless outside of your organization (such as labor category 301) and provide no common knowledge description of the labor type or cost being proposed. As described above, offerors can find the Cost Proposal Spreadsheet in Appendix N.

I. Cost Proposal Volume: Offeror's Cost Volume should include costs for both Phase 1 and Phase 2.

- i. Separate the Cost proposal into a business section and cost section.
- ii. The business section should contain all business aspects to the proposed instrument arrangement, such as the type of instrument, any exceptions to terms and conditions of the announcement model agreement, any information not technically related, etc. Provide rationale for exceptions.
- iii. Identify any technical data that will be delivered with less than unlimited rights
- iv. Cost proposals including the cost proposal spreadsheet have no page limitations; however, offerors are requested to keep cost

proposals to no more than 100 pages as a goal. The following information must be included in this volume:

- v. The proposal shall be furnished with supporting schedules and shall contain a person-hour breakdown per task. The cost proposal shall include a time-phased description of anticipated costs over the effort (see Appendix H: Time Phased Cost Proposal Sample). Time phasing shall be shown at least quarterly with a preference for monthly breakout.
- vi. The costs shall be broken out by awardee and Government cost. If the FOA provides the schedule of estimated Government funding, the proposal shall show how the proposed plan is compatible with the Government funding schedule. If it is not compatible, the offeror shall explain how the incompatibility is to be remedied.
- vii. Of importance in this cost section is the offeror's analysis demonstrating the relationship between the cost information submitted and the business and technical effort set forth.
- viii. **Direct labor** proposed should include a breakout of the number of labor hours for each proposed labor category and indicate the basis for proposed rates (Forward Pricing Rate Agreement (FPRA) or Recommendation (FPRR), an estimating model, historical projections or some other reasonable method for projecting costs. Do not use internal cost codes which are meaningless outside of your organization (such as labor category 301) and provide no description of the labor type nor cost being proposed. Instead use meaningful labor descriptors such as "Senior Material Scientist".
- ix. **Travel** proposed should include the number of trips, travelers, days, destinations, necessity, and timeframe. Note that proposed travel costs should also be included in appropriate area of Cost Proposal Spreadsheet.
- x. The **Material and Equipment** cost element should include a breakdown of the types and quantities proposed and the basis that was used to derive the cost estimate such as purchase orders, vendor quotes, engineering judgment, or historical data. Note the Material and Equipment cost elements should also be included in the Cost Proposal spreadsheet.
- xi. Any proposed **Subcontracts or Subrecipients** should address why the proposed subcontract or subrecipient is necessary for the effort and how the price was determined reasonable. Proposed subrecipients or subcontractor cost proposals shall be at the same level of detail required for the prime recipient's cost proposal.
- xii. The material solicited in this volume will facilitate the Government's evaluation of cost realism. The receipt of information from offerors is more relevant to an analysis of

resources proposed for the technical program tendered than uncorrelated and voluminous data (i.e., your analysis should address the specific complexities of the work proposed and the rationale for the specific resources required to complete the program).

- xiii. The offeror shall also state in this section whether its accounting/financial systems have previously been audited by a Government agency or independent auditor.
- xiv. See Appendix O for Title III Funding Guidelines.

J. Proposal Content Summary: You may be ineligible for award if all requirements of this solicitation are not met on the proposal due date. Reference Section VIII, Paragraph 8, for the Proposal Content Checklist of the requirements.

K. Funding Restrictions: None

V. Proposal Review Information

1. Project Requirements

The proposed Advanced Drop-In Biofuels Production Project must meet all of the following requirements to be considered for an award. During the technical evaluation, evaluators will first confirm that proposals meet all of the following requirements. *Proposals that fail to meet one or more of the requirements will be considered non-responsive and will neither be further evaluated nor considered for an award.* To assist evaluators in confirming that requirements are met, proposals should include a Requirements Compliance Summary (as described in Appendix M: Requirements Compliance Summary) as the first section of the Technical Volume immediately after the Table of Contents.

Requirement 1: Biofuels must be produced domestically.

The proposed IBPE must be located within the United States or Canada. Territories and protectorates are not considered part of the United States for this solicitation.

Requirement 2: Biofuels Must Comply with EISA Section 526.

Proposed biofuels must comply with Section 526 of the Energy Independence and Security Act (EISA) of 2007. To comply, the neat biofuels must have lifecycle greenhouse gas emissions that are less than or equal to those of conventional petroleum derived fuels, as defined by the 2005 Petroleum baseline. This baseline is described in detail in "Development of Baseline

Data and Analysis of Life Cycle Greenhouse Gas Emissions of Petroleum-Based Fuels,” report DOE/NETL-2009/1346, published by the National Energy Technology Laboratory. The report is dated November 26, 2008 and can be downloaded from the following link:

<http://www.netl.doe.gov/energy-analyses/pubs/NETL%20LCA%20Petroleum-Based%20Fuels%20Nov%202008.pdf>

Requirement 3: Biofuels must come from an acceptable feedstock.

For this project, the biofuels must come from an “acceptable feedstock” as defined for this project. To be an acceptable feedstock, the feedstock must be produced domestically, meaning in the United States, Canada or US territories (this excludes US protectorates). Any feedstock for which the typical use of the material in commerce is the production of food or feed is not acceptable. To be an acceptable feedstock, a feedstock must also fit at least one of the following categories:

- 1) Meets the definition of “renewable biomass” as defined here:
 - a) Materials, pre-commercial thinning, or invasive species from National Forest System land and public lands (as defined in section 103 of the Federal Land Policy and Management Act of 1976 (43 U.S.C. 1702)) that –
 - (1) Are byproducts of preventive treatments that are removed
 - (a) To reduce hazardous fuels;
 - (b) To reduce or contain disease or insect infestation, or
 - (c) To restore ecosystem health
 - (2) Would not otherwise be used for higher-value products; and
 - (3) Are harvested in accordance with –
 - (a) Applicable law and land management plans; and
 - (b) The requirements for –
 - (i) Old growth maintenance, restoration, and management direction of paragraphs (2), (3), and (4) of subsection (e) of section 102 of the Healthy Forests Restoration Act of 2003 (16 U.S.C. 6512); and
 - (ii) Large-tree retention of subsection (f) of that section; or
 - b) Organic matter that is available on a renewable or recurring basis from non-Federal land or land belonging to an Indian or Indian tribe that is held in trust by the United States or subject to a restriction against alienation imposed by the United States, including –
 - (1) Renewable plant material, including –
 - (a) Organic material grown for the purposes of being converted to energy; and
 - (b) Trees; and
 - (c) Algae and other microorganisms such as Cyanobacteria (grown non-heterotrophically for biomass or direct products); and

- (2) Waste material, including –
 - (a) Crop residue (including cobs, stover, bagasse and other residues);
 - (b) Other vegetative waste material (including wood waste and wood residues);
 - (c) Animal waste and byproducts (including fats, oils, greases, and manure); and
 - (d) Food waste and yard waste.
- 2. Biomass that is comprised predominately of the organic fraction of municipal solid waste (MSW), and municipal sewage sludge (MSS or “biosolids”), are acceptable feedstocks, so long as appropriate considerations are made for the costs of segregation, collection, processing, and transportation. Bio-gas from municipal solid waste facilities, sewage treatment facilities and concentrated animal feeding operations are acceptable feedstocks.

Any feedstock for which the typical use of the material in commerce is the production of food or feed is not acceptable. Supply chains that will import feedstock from outside the United States, Canada or its territories (including sugars used for microbial conversion processes) will not be considered.

Requirement 4: Biofuels must be drop-in replacement suitable for military operational use.

The targeted fuels are for military operational use, and as such, must be either currently approved/certified fuel, or the proposal must demonstrate convincingly (to the evaluators) that the offeror has a credible route for the fuel to become approved and certified MILSPEC JP-5, MILSPEC JP-8, approved for US military use ASTM D1655 / D7566 Jet A/A1 and/or MILSPEC F-76 equivalents by the time a commercial-scale IBPE would become operational (e.g. a pathway cannot simply be part of ASTM D7566 or other civilian standards, it must also have been fully qualified for use by the military). Any combination of these fuel types may be produced by the IBPE.

The DoD has indicated that it intends to purchase biofuels that meet approved specifications, are a “drop in biofuel” that can utilize existing infrastructure, are delivered to DoD fully blended with conventional petroleum product counterparts (if required), and are ready for use.

Requirement 5: The proposed Integrated Biofuels Production Enterprise must have a rated capacity of at least 10 million gallons of neat biofuel per year.

The proposed IBPE must be able to establish a capability to produce at least 10 million gallons or expand an existing capability to produce at least an additional 10 million gallons of neat biofuel per year, as measured by the neat amount of biofuel produced that conforms to the MILSPEC JP-5,

MILSPEC JP-8, approved for US military use ASTM D1655 / D7566 Jet A/A1 and/or MILSPEC F-76 fuel standards annexes for neat synthetic hydrocarbon components. Production of biofuel intermediates or bio-crude that are subsequently co-processed at a refinery into fuel is an acceptable option, so long as at least 10 million gallons per year of MILSPEC-compatible fuels are attributable to the intermediate or bio-crude feedstocks. The production of co-products is acceptable as long as military-compatible biofuel production is at least 10 million gallons per year.

Requirement 6: The proposal must indicate that the offeror will commit to at least 50% cost share for both Phase 1 and Phase 2 and will provide Contingency Reserves during Phase 2 equal to at least 25% of total Phase 2 costs.

Based on the nature of this program, cost share waivers will not be considered. The offeror shall provide Contingency Reserves during Phase 2 equal to at least 25% of total Phase 2 costs to cover unexpected costs or delays in producing at design capacity.

Requirement 7: The proposal must contain completed information inputs in accordance with prescribed formats for each of the following FOA Attachments:

- Appendix C: Environmental Questionnaire
- Appendix D: Commercial Process Flow Diagram
- Appendix E: Demonstration Process Flow Diagram and Supporting Data
- Appendix F: Cash Flow pro forma Excel File

Requirement 8: Proposed Integrated Biofuels Production Enterprise must be structured as a For-Profit organization

2. Evaluation Criteria: The following evaluation criteria will be used to evaluate the Proposal (Technical Volume, Summary Business Plan Volume, Cost Volume, and all required attachments), and are comprised of three criteria ranked in descending order of importance: Business and Technical, Cost/Price, and Proposal Risk Assessment (numbered 1, 2 and 3). Factors (1.1, 1.2, 1.3) are in descending order of importance. These criteria will be used to evaluate the proposal once it is determined that the offeror has met all the Project Requirements in Section V.1.

1. Business and Technical

1.1 Business Viability: the proposal will be evaluated to the extent to which the offeror possesses the business and financial capability, demonstrated experience, willingness, and a credible business plan to be a competitive, economically viable, responsive, merchant

supplier to the advanced biofuel industry. The following five sub-factors are in descending order of importance:

- 1.1.1 Financial Health and Economic Viability of the IBPE, including viability of feedstock supply agreements and all products and co-products, by the end of the technical period of performance as demonstrated in the completeness and reasonableness of Balance Sheets, Income Statements, the pro forma, and other pertinent financial information. The extent to which the pro forma shows lack of or diminishing reliance upon Government subsidies and incentives over time under the U.S. Energy Information Agency's (EIA) low oil price case.
- 1.1.2 Cost Competitiveness of the fully blended biofuel produced at full-rate production upon conclusion of the technical effort. The benchmark for comparison is the conventional diesel or jet fuel wholesale price on an unsubsidized basis. Forecasted petroleum prices will be based on the EIA's "Annual Energy Outlook 2017". Cost competitiveness comparisons must take into account the EIA's reference, low and high fuel price cases.
- 1.1.3 Financial Wherewithal of the offeror to undertake such a venture, including providing for at least 25% Contingency Reserves as part of Phase 2, as demonstrated by financial resources, financial commitments, financing plans, and the quantity and liquidity of identified Contingency Reserves.
- 1.1.4 Assured Access to all key Intellectual Property (IP). Documentation and substantiation that the offeror either possesses or has teaming access or licenses to all key intellectual property necessary to construct and operate a commercially viable IBPE. Freedom to Operate Report or similar documentation is provided and supports claims that IP has been secured.
- 1.1.5 Replicability of the IBPE's Business Model, including the corporation demonstrating the intention and wherewithal to move forward with establishing subsequent commercial-scale projects, once technical success is demonstrated. The strength and commitment of any supporting organizations, including parent company and key supply chain partners, to the venture's business success will be taken into account.

1.2 Quality of Technical Approach: the proposal will be evaluated for the credibility of the technical approach for establishing/ expanding the capability to manufacture advanced drop-in biofuels that meet current DOD requirements with scalability for increased demand within the advanced biofuel markets. The following five sub-factors are in descending order of importance:

- 1.2.1 Effective Teaming and Business Arrangements that encompass all aspects of a fully integrated value chain (from feedstock to blending & delivery) required to produce, blend, and deliver biofuels. Total

- proposed capacity and the extent to which it exceeds the requirement of 10 million gallons per year of neat biofuel.
- 1.2.2 Environmental Compliance Plan for satisfying all Federal, state, and local environmental laws and regulations, including National Environmental Protection Act (NEPA). Demonstrates familiarity and experience with environmental compliance procedures and regulations for applicable states and U.S Environmental Protection Agency Regions.
 - 1.2.3 Schedule Credibility of the offeror's technical approach that demonstrates ability to realistically complete construction of the IBPE within 4 and a half years of agreement award, and achieve full-scale production capability within 5 and a half years of agreement award.
 - 1.2.4 Environmental Sustainability considerations for the proposed technical approach (e.g., net water resources usage for each gallon of fuel produced, land use and purposing, air quality and emissions, net energy demand and generation, and waste stream treatment and disposal).
 - 1.2.5 Expanding the Capability and Robustness of the existing domestic advanced biofuel industrial base. The extent to which the proposed technical approach diversifies the pool of commercially available technologies and/or feedstocks.
- 1.3 Production Capability and Experience:** the proposal will be evaluated for the degree of capability and applicable experience in the manufacture of advanced drop-in biofuels in a full-scale manufacturing environment. The following four sub-factors are in descending order of importance:
- 1.3.1 Experience of Management and Technical Teams in undertaking similar ventures. Extent to which offeror has demonstrated and documented the ability to build relationships and agreements in order to create a robust biofuels logistics supply chain.
 - 1.3.2 Quality and Applicability of Production Data provided to demonstrate technical and programmatic experience and document demonstration-scale and/or pre-commercial scale biofuel production to validate its maturity. The extent and scale to which the fully integrated process has been demonstrated (for example, 1,000 hours of continuous operational data at one ton per day). The extent to which the operational data collected at the demonstration scale supports the technical targets necessary for commercial viability.
 - 1.3.3 Scale-Up Factors for the proposed facility are reasonable. The extent to which the offeror has identified, understood and mitigated major scale-up factors (such as introduction of contaminants) that may create system upset.
 - 1.3.4 Comparability of the commercial scale facility design to the design of the integrated demonstration facility from which the production data was generated. The extent to which the fully integrated process has

been demonstrated using the same feedstock intended for use in the commercial scale facility.

2. Cost/Price includes the realism of the proposed cost, recipient cost share, and consideration of proposed budgets and funding profiles. Cost/Price is a substantial criterion, but ranked as the second order of priority. Cost sharing greater than 50/50 will be viewed favorably by the Government in the proposal evaluation process. The type and quality of cost share proposed (DODGARS Part 37, paragraphs 37.520 - 37.555 address cost share) will be considered.

3. Proposal Risk Assessment: Proposal risk will be individually assessed for the Business & Technical and Cost/Price factors. Proposal risk relates to the identification and assessment of the risks associated with an offeror's proposed approach as it relates to accomplishing the proposed effort. Tradeoffs of the assessed risk will be weighed against the potential payoff.

3. Review and Selection Process

A. Categories: The technical, business and cost proposals will be evaluated at the same time and categorized as follows:

- **Highly Recommended:** Proposals are recommended for acceptance if sufficient funding is available, and normally are displaced only by other Highly Recommended proposals.
- **Selectable:** Proposals are recommended for acceptance if sufficient funding is available, but at a lower priority than Highly Recommended Proposals. May require additional development.
- **Not Selectable:** Even if sufficient funding existed, the proposal should not be funded.

B. Government Due Diligence: Prior to commencing negotiations and making an award, the Government intends to deploy subject matter experts (who may be third-party non-Government consultants) to conduct "due diligence" on the proposal(s) that are categorized as "highly-recommended" and deemed of interest to the Government for the negotiation of an award. The due diligence will include the review and substantiation of production demonstration or commercial-scale data presented in the technical proposal, specifically information presented in Section 1.5 and Appendix E of the Technical Volume. This activity will include on-site visits to the offerors and/or any key subcontractors to perform the data review and view actual facilities that were used to generate the data. Only data presented in the proposal will be reviewed; no new data can be introduced after proposal submission. Non-Government subject matter experts will be required to sign Non-Disclosure Agreements (NDA) to protect each offeror's and their key

subcontractor's proprietary data. Offerors should be prepared to assure the Government's due diligence personnel have unrestricted access to all pertinent information and that required NDAs are coordinated and finalized in a timely-manner. All required NDAs will be put in place within 21 days of the written notification by the Government in support of a timely due diligence process. Establishing NDAs and supporting this due diligence process will be a condition for commencing negotiations. Offerors who do not or are unable to comply with the due diligence in a timely-manner will be withdrawn from consideration for an award. If the Government's due diligence cannot substantially confirm the technical information presented and evaluated in the offeror's Technical Volume submittal, the offeror will be withdrawn from award consideration and negotiations will not be initiated. The Government reserves the right to enter negotiations with another offeror.

C. No other evaluation criteria will be used. The Technical Volume, Cost Volume, and Summary Business Plan Volume will be evaluated at the same time. The Air Force reserves the right to make none, one, or more awards as a result of this FOA.

VI. Award Administration Information

1. Award Notices: The Government intends to notify offerors whether their proposal is *recommended for award*, by letter or e-mail, on or about 4 August 2017. The notification is not to be construed to mean the award is assured, as availability of funds and successful negotiations are prerequisites to any award. The Government also intends to make a public announcement identifying offerors whose proposals have been selected for entering into negotiations with the Government. Should negotiations break down with an offeror named in the public announcement the Government reserves the right to enter negotiations with another offeror.

2. Administrative Requirements: See Section I.

VII. Agency Contacts

Address contracting questions to: David Hall, AFRL/RQKMT, 2130 8th Street (Building 45), Wright-Patterson AFB, OH 45433-7541, David.Hall.63@us.af.mil, (937) 713-9903.

VIII. Other Information

- 1. Support contractors:** Offerors are advised that employees of commercial firms under contract to the Government may be used to administratively process proposals, monitor contract performance, or perform other administrative duties requiring access to other firms' proprietary information. This support contract(s) includes nondisclosure agreements prohibiting their contractor employees from disclosing any information submitted by other contractors or using such information for any purpose other than that for which it was furnished.

Northrop Grumman Technology Services
4065 Col. Glenn Highway
Beavercreek, OH 45431

- 2. Informal Feedback Sessions:** When requested, an informal feedback session will be provided. The process will follow the time guidelines outlined in the notification letter.
- 3. Wide Area Work Flow:** NOTICE: Any agreement resulting from this solicitation will contain the article 4.070—Payment Reimbursement, which allows electronic submission of all payment requests. The Department of Defense uses Wide Area Work Flow-Receipt and Acceptance (WAWF-RA). Any agreement resulting from this solicitation will allow use of WAWF-RA for invoicing and receipt/acceptance, and provide coding instructions applicable to this agreement. Offerors are encouraged to take advantage of available training (both web-based and through your local DCMA office), and to register in the WAWF-RA system. Information regarding WAWF-RA, including the web-based training and registration, can be found at: <https://wawf.eb.mil/>
- 4. Forward Pricing Rate Agreements:** Offerors who have forward pricing rate agreements (FPRA's) and forward pricing rate recommendations (FPRR's) should submit them with their proposal.
- 5. Reporting Executive Compensation and First-Tier Sub-contract/Sub-recipient Awards:** Agreement award resulting from this announcement will contain the award term set forth in 2 CFR, Appendix A to Part 170 http://www.ecfr.gov/cgi-bin/text-idx?tpl=/ecfrbrowse/Title02/2cfr170_main_02.tpl
- 6. Ombudsman:** Ombudsman Article 5.020 entitled "Ombudsman" shall be contained in the agreement resulting from this solicitation. The AFRL Ombudsman is Ms. Kimberly Yoder, Acting Director of Contracting, AFRL/PK, (937) 255-4967, email: kimberly.yoder@us.af.mil.
- 7. Recipient Business Systems:** Financial Management Systems: IAW DoDGARS 34.11 and 37.615, is hereby incorporated by reference.

- 8. Proposal Content Checklist:** You may be ineligible for award if all requirements of this solicitation are not met on the proposal due date.
- A.** Proposals are due to the Contracting POC.
 - B.** Proposals are due no later than the due date and time specified in this announcement.
 - C.** Project Proposal Requirements 1-8 outlined in Section V (1) must be addressed in the Technical Volume and Summary Business Plan Volume.
 - D.** Proposal page limits are strictly enforced. See Section IV of the solicitation for page limits.
 - E.** Completed Title III Representations and Certifications are due with the proposal. Representations and Certifications can be found in Appendix I.
 - F.** The Cost Proposal must contain all information described in the Content and Form of Proposal Section.
 - G.** For any subcontracts proposed, the Cost Proposal must contain a subcontractor quote/analysis.
 - H.** The Cost Proposal must contain any exceptions to the sample Model Agreement Terms and Conditions. (See Appendix J for sample model agreement). However, be advised that the document awarded may include articles in addition to those in the models, and/or articles in the models may be deleted, depending on the specific circumstances of the individual program. Any additions or deletions will be discussed with the offeror prior to award of the document. In the interest of streamlining and in order to be in position to award within days of completion of the technical evaluation, it is imperative that you review the model TIA appropriate for your business type and provide with your proposal any exceptions to terms and conditions.
 - I.** Proposals must be submitted in the format specified in Section IV.
 - J.** Offerors who have Forward Pricing Rate Agreements (FPRA's) and Forward Pricing Rate Recommendations (FPRR's) should submit them with their proposal.

IX. Appendices

All of the following Appendices are incorporated by reference into this FOA:

- Appendix A: Project Goals, Requirements, Objectives, and Phases
- Appendix B: Recommended Outlines for the Technical Volume and Summary Business Plan Volume
- Appendix C: Environmental Questionnaire
- Appendix D: Commercial Process Flow Diagram
- Appendix E: Demonstration Process Flow Diagram and Supporting Data

- Appendix F: Cash Flow pro forma Excel File
- Appendix G: Units of Measurement
- Appendix H: Time Phased Cost Proposal Sample
- Appendix I: Representations and Certifications
- Appendix J: Model TIA
- Appendix K: Cost Share Guidance
- Appendix L: NEPA Guidance
- Appendix M: Requirements Compliance Summary
- Appendix N: Sample Cost Proposal Spreadsheet
- Appendix O: Title III Funding Guidelines